

Digital LED Lighting Development Kit
Part Number: DM330014



LED lighting designers are being challenged to meet the rapidly expanding demand for green, smart energy technologies while differentiating their products. Microchip's Digital LED Lighting Development Kit (DM330014) enables designers to quickly leverage the capabilities and performance of the dsPIC33 'GS' series of Digital Signal Controllers (DSCs), to develop LED lighting products. The dsPIC33 'GS' DSC and this reference design allow developers to create a 100% digitally controlled ballast function, while including advanced features such as dimming and color hue control. The dsPIC33 'GS' DSCs can support an entire system implementation for LED lighting products, including power-conversion circuits, such as AC-to-DC and DC-to-DC conversion, along with functions such as Power Factor Correction (PFC), which are necessary for a complete product and lower the overall system cost.

Benefits offered by the digital-power techniques in this reference design and the dsPIC33 'GS' series of DSCs include:

- Reduced System Cost via higher integration
- Higher Efficiency using digital-control techniques
- Flexible and reusable designs
- Advanced features implemented in software

Example Applications:

LED lighting applications supported by Microchip's LED Lighting development Kit include dimmable LCD backlighting, signage, LED replacement of fluorescent tubes and incandescent bulbs, architectural lighting, and automotive lighting applications. Automotive lighting products include exterior applications, such as headlights, daytime running lights and signal lights.

Key features of Microchip's Digital LED Lighting Development Kit include:

- Color control for RGB LEDs

- Supports DMX512 Standard for brightness control
- Flexible input voltage support, including both Buck and Boost topologies
- Fully dimmable
- Full digital control
- Fault protection
- Fully controlled with a single dsPIC33FJ16GS504 DSC.

Web seminars:

Click [here](#) to view the web seminar on Controlling High Brightness LEDs using the dsPIC GS series of SMPS controllers.

[Downloads](#)